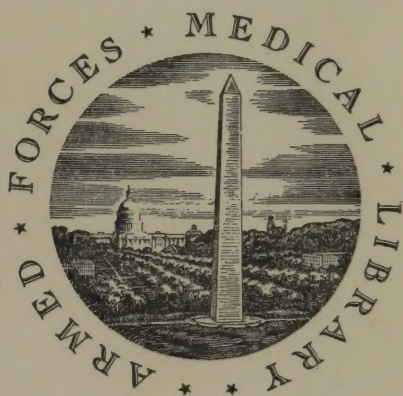




UNITED STATES OF AMERICA



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WASHINGTON, D.C.







## ARTICLE II.

*An INQUIRY into the Cause of the Prevalence of the YELLOW FEVER in New-York.**By VALENTINE SEAMAN, M. D.*

THE following inquiry into the history of the epidemic Yellow Fever that has appeared in this city, at different times since the year 1791, was instituted for the purpose of ascertaining its most probable and essential causes. If I have succeeded, my end is answered, and my trouble fully compensated; if not, I still gratify myself with the thoughts of having established, with a considerable degree of accuracy, facts, that may be useful to some more fortunate inquirer.

The great difficulty of coming at the simple truth, even near at home, has made me cautiously avoid attending to hearsay stories of what has happened abroad; obscured by their distance, often warped by their relators, and too generally eagerly caught at by their favourers, and equally neglected by the adverse party. An instance of the impropriety of giving a currency to such fly-about tales, is glaringly exhibited in William Currie's letters to Benjamin Wwnkoo: this penetrating man having deceived himself, notwithstanding a bulwark of opposing evidence, (Webster's papers on Bilious Fevers, and Bayley's Account of the Epidemic of 1795,) impassable by any body else, that the Yellow Fever that desolated our city in 1795, was introduced into it by the brig Zephyr. One naturally would conclude from Dr. Currie's account, that he had confined his inquiries merely to the superficial scum of newspaper observations, and flying reports; but his subsequent reflections prove him to have been acquainted with what ought to have corrected his premature and ungrounded conclusions. But these circumstances, so discordant to his wishes, it seems he has thought proper not to attend to, but rather to rest his opinions upon the slender support of his *ipse dixit* authority; while he soothes his feelings, by flying from the narrow path of reason and truth, into the unbounded field of hard-strained invective and feeble scurrility.

I cannot, in this place, forbear noticing the different effects that opposite opinions have had on the subsequent fate of Philadelphia and New-York. While the physicians of the former place,\* I will

\* I do not hereby mean to include all their physicians, but only the majority of them, as several worthy characters among them have risked their very reputation at the shrine of public welfare, in attempting to call the attention of that afflicted city to its true interests.

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not say, "*actuated by some malignant motive*,"\* as I can hardly conceive human nature capable of such depravity, have been flattering the pride and vanity of their fellow citizens, with a notion, that their city was all-perfect, and its situation, in regard to healthiness, beyond amendment; and that to keep up a sharp look-out to their neighbours was all that was necessary; they have induced them to disregard that attention to cleanliness, which the terror of their first attack had driven them into; and hence have those who unhappily confided in their judgments, returned to their former neglect of domestic causes, which has again involved them in a calamity, as general, and, perhaps, as fatal, in proportion to the *remaining predisposed inhabitants*,† as that of 1793. In the meantime, the *learned* physicians, as they have, in a sneering way, been called, of New-York, have had honesty and independence enough to speak their minds freely, and to let their fellow citizens know, that "without the air of putrid effluvia, they need have no apprehension of a Yellow Fever *spreading* among them;" and their silly hearers, from being so weak as to put confidence in their opinions, have removed most of the suggested causes of pestilence; and hence have confined the effects of the disease, this year, to the narrow limits of a few filthy spots; and the number of deaths to within thirty: notwithstanding the severity of attack, and malignancy of the complaint, where it prevailed, were fully equal to that of 1795.

I shall not impose upon the time of the reader, with quotations from different authorities, in various parts of the world, in proof of the particular prevalence of Yellow Fever in places especially favouring the accumulation and fermentation of putrefactive materials of some sort or other; these facts being too well known to need recapitulation: but shall endeavour to trace the history and progress of the disease, for the purpose, if possible, of ascertaining its true cause, as it has occurred to my observation, in this city for several years past.

In the autumn of 1791, the Yellow Fever was considerably prevalent in a part of Water-street, in the neighbourhood of Peck's-slip, noted, at that time, for having the docks near to it loaded with every kind of filth that could be scraped up out of the adjoining slips, which had been long collecting every species of corruptible materials that the citizens wished to get rid of. (See also Jonas Addoms' Inaug. Dissert.)

In 1792, at the season wherein those complaints mostly prevail, a long indisposition confined me to the house, and prevented

\* Currie's charge upon those who dare to think differently from him.

† By the remaining predisposed inhabitants, I mean to include only such of those that continued in town, who had not undergone the complaint before, as a former generally screens us from a future attack, at least a fatal one.



my knowing much about what was going on out of doors, or of the state of the city, either as favouring health, or threatening disease. However, I did not understand that there was much alarm of Yellow Fever that year. Probably there was little or none.

Nor, in 1793, was the alarm of Yellow Fever heard of among us, excepting from a few solitary cases imported from Philadelphia, and which was lost in the fate of the unfortunate individuals who had brought it from its source, without the least injury to the healths of our citizens, either in the capacity of friends, nurses, physicians, or neighbours; none of these patients, as far as I could learn, having been permitted to seat themselves in places abounding with putrefying substances.

The complaint in the year 1794, appeared to such a degree, as to occasion considerable uneasiness in the minds of many of the citizens. *The Committee for preventing the introduction of contagious diseases*, met regularly to establish measures for the welfare of the city. To them, in a communication made the 11th of 9th month (September), among other circumstances, I intimated as a reason for believing that it was supported by causes within ourselves, "That most of the patients that had been, or then were, affected with dangerous fevers, were either such as resided in the neighbourhood of the slips, (which then were or lately had been cleaning out) or whose employment led them to frequent those places; as cartmen, measurers, labourers, &c. at least such was the situation of the cases that I had heard or known of, and respecting which I had taken some pains to inform myself. I then had, at that early part of the season, attended four patients; and they were all of that description. Two of them were boatmen, who lay at the New-slip; another lived not far from it; and the business of the fourth obliged him to frequent the slips." It was observed, that during the very time that these persons were taken sick, the MUD-TURTLE (as the machine was called, the temporary suspension of whose operations was the object of that communication) was performing its pestiferous purgations on this filthy slip.

In 1795, that part of the town that bore the chief burthen of our calamity, was remarkably distinguished by peculiarity of circumstances and situation (aided by the singular regularity of our rains), seemingly well calculated for the accumulation and decomposition of all kinds of perishable animal and vegetable substances. (Webster's Collection of Papers on Bilious Fevers.)

The chief prevalence of the disease in 1796, seemed evidently fixed where, from our former experience, we ought reasonably to have expected it. For no doubt, at that time, the neighbourhood of the Whitehall, from the nature of materials wherewith a large dock was there filling up, aided by the noisome exhalations,

from the exposed bottom of the Exchange-slip at low water, must certainly have been rendered the most noxious part of the city. (Bayley's Letters, Medical Repository, No. I. Appendix.)

But it was not intirely confined to that particular neighbourhood in 1796. Four deaths from the Yellow Fever occurred, during that season, within fifty yards of where Roosevelt-street drain empties itself into an inlet which was then open quite up to the southerly side of Water-street; the bottom of which (S on plate I.) was frequently in part left bare even at high water. Every ebb-tide exposed at least eight hundred square yards of its surface, covered with the numerous perishable materials, furnished by the different streets of that crouded part of the town, which descend into this common sewer, in addition to the other putrid matters that such handy places are always collecting.

One of them, James Callender (marked .1 on plate I.) was an Irishman, who had resided about five months in this city, and was the first that I could hear of who had the disease in that neighbourhood. He died on the 22d of 7th month (July,) after a few days illness, with a yellow skin, and smelled extremely offensive, as I was told by those who assisted in burying him. Two others, of the above cases, came under my own particular observation, and were decidedly of that complaint. Both of these patients were foreigners just arrived from London. One of them (.2) I attended. He had been in town but five days when he was taken sick: On the fifth day afterwards, 19th of 8th month (August), he died, with coffee-ground vomitings and yellow skin. To the second (.3) I was called a few hours before his death, to determine whether he was a proper object for the New-York Hospital. He had been more or less indisposed, from the second day after his arrival, which was on the 2d of 10th month (October), but was not seriously taken till the fifth. He died on the seventh day of his disease, very yellow, but I know not what was the nature of the matter he puked up. I was told he had been much distressed by his sickness of stomach. The last (.4) of these four patients died the 20th of 9th month (September), after five days illness, with yellow skin and dark vomiting.

Another person also died with this complaint, some little distance off, in Cherry-street (.5). I saw him in the latter stage of his complaint, in conjunction with the physician who had attended him from the beginning; and we were perfectly agreed as to the nature of his disease. He died the 21st of 8th month (August), on the seventh day of his complaint, with yellow skin.

Besides these fatal cases, there were a number of persons also, that were seriously affected by severe fevers, but yet recovered, (designated © in the plate.) I attended three of this description; one of them lived in a house built upon piles, over a part of the



above-mentioned flat; another passed a great proportion of his time, during the day, in a store adjoining it; and the last lived in Cherry-street, and the yard of his house backed upon Water-street, about eight rods distant from the same spot. Dr. Borrowe informed me, that he had also attended one, at the corner of Water and Roosevelt streets, with the complaint well marked, and from which he, with difficulty, recovered.

There were several other cases of fever, of a suspicious nature, though slight and soon recovered from. Their situations are marked (o) on the plate.

It may not be amiss here to observe, that none, as far as I could learn, that had the fever in 1795, suffered with it in this neighbourhood this year, excepting one of the slight cases above-mentioned: Its general prevalence the year before was, perhaps, the reason why no more were affected about this spot this year; their former indispositions probably securing them against a second attack. This much is certain, that the nine patients first above-mentioned, had not had it in 1795. Indeed, seven of them might be said not to have been exposed to its cause; one having lived only a few months in town, two having just come from England, one absented herself from town in the sickly season, two had lately come from the country, and one that year lived at the Whitehall; and one of the others continued in town for only a part of the time during the epidemic of 1795.

Why the disease did not become as general about the easterly low part of the city in 1796, as in the year before, probably was owing to the removal of most of the causes that were supposed to have promoted such complaints; and perhaps also, in a degree, to not having such regular rains, to favour the deadly operations of remaining deficiencies. (See Webster's Collection of Papers.) Many of the lots in that part of the town had been filled up; the filth and dirt of the streets and yards had been more carefully cleared away; the unpaved streets, in general, had been paved and regulated, so as to prevent any water from standing in them; and several of the slips and vacancies under the stores set upon piles, had been filled up with wholesome earth. But, in this devoted spot, partial neglect, we see, was followed up by its predicted, I had like to have said merited, consequences.

It remains to notice the disease as it has shewn itself among us this season. The cases that have occurred being too numerous to attempt to get an accurate history of them all, and the want of proper marks to identify it where it is slight, if attempted, would, at best, leave but a very objectionable result: I have therefore only noted the fatal ones; nor do I think we need much to regret the omission of the others, since, from the number of deaths, we can nearly calculate upon its degree of prevalence, and particularly

since the proximity of cause will, most probably, correspond with its mortality.

To proceed. 1st. William Cummings, two days after having taken his lodgings in East George-street, was attacked on the 1st of 9th month (September), with chills, head-ach, and the other common symptoms of fever, which increased in the night with delirium, &c. The next day many circumstances giving occasion to suspect his complaints to be of a dangerous nature, he was carried to the Lazaretto, on Bedlow's island, where, in a few days, I have understood, he died.

2d. Margaret Wiggins, in the same street, was taken on the 14th of the same month. On the fifth day of her disease, according to the account of the person with whom she lived, she puked a black, offensive, ropy matter. Two days afterwards, on the morning of the 22d, she died very yellow, and with black effusions about her breast.

3d. — Brown was taken the next day, the 15th, and died also on the morning of the 22d. He had vomited, during his disease, much blackish bloody matter, and was very yellow.

4th. — Price, after having passed a part of the evening of the 16th of 9th month (September), in East George-street, was taken in his return home at midnight, with dizziness and lassitude, succeeded by a chill, followed by a hot fever, &c. He died on the 19th, very yellow; he had, during his disease, puked a black matter.

5th. William Templeton sickened on the 16th, with chills, &c. and died in the afternoon of the 22d, very yellow.

6th. John Busson was taken on the same day with Templeton. During his disease he puked much: the nature of the discharge I could not learn. He died on the 23d, with yellow skin, and blackness about his neck and breast.

7th. A lad, by the name of Parcells, died in Cedar-street. His mother lived in Henry-street, two doors from the corner of East George-street, where he used frequently to pass his evenings, and sometimes to stay the whole night. He became sick on the 19th, of the complaint of which he died on the 23d. According to the account of his physician, his must have been a decided case of Yellow Fever. He had the black vomiting and yellow skin.

8th. Seth Fairchild was taken on the 27th of 9th month (September), and died on the 2d of 10th month (October), with black vomiting and yellow skin.

9th. George Ross was taken sick the 11th of 10th month (October), and died on the 20th. He had puked a blackish matter. His skin was yellow.

10th. — Hulshart was taken on the 12th, and died on the 17th of 10th month (October). He was yellow, and had puked, during his illness, a greenish brown matter, and purged clear blood.

All the above cases appear to have originated in East George-street; and all, excepting Price and Parcells, resided within the small compass of seventeen houses, in the lower part of the street.

11th. On the 13th of 9th month (September), John Holmes, after having been a little complaining for a week, according to the relation of his landlady, was taken with a chill, succeeded by a hot fever, violent head-ach, red eyes, &c. On the 19th he was sent to the New-York Hospital, where he died on the 23d, with a yellow skin, after having puked up a dark brown feculent looking matter. He had taken lodgings in Chesnut-street three days previous to his indisposition.

12th. — Havens, who lay on board a vessel at Lynch and Stoughton's wharf, from the time of her arrival, the 25th of 8th month (August), was taken unwell the 14th of 9th month (September), more unwell the next day, still more the day after, but not to such a degree but that he walked up to Roosevelt-street, where he took lodgings. He was confined the next day; on the 18th he was very yellow, and vomited, in great quantities, a black matter, mixed with coagulated blood, almost incessantly. He discharged the same by stool, and died in the night of the 19th.

13th. On the 17th, Samuel Suydam, who resided near the Exchange, in Water-street, but who passed the greatest part of his time, during the day, in his store, a little to the east of Lynch and Stoughton's wharf, in Front-street, was taken down with his complaint, which terminated fatally, on the morning of the 23d. His physician informs me, that his disease appeared to him to be a Yellow Fever of the most malignant type. He had the black vomiting to a great degree, and his skin was very yellow.

14th. — Kelly (.1 of plate II.) was taken on the 7th of 9th month (Sept.), with fever, attended with a particular determination to his head, hot skin, and great derangement of his mind. His complaints being suspected of a malignant nature, he was conveyed to the Lazaretto on the 13th; where, a few days afterwards, he died.

15th. Daniel Wiggins, who lived in the lower house on the west side of the Fly-market, (.2) his physician tells me, was, on the 20th of 9th month (September), attacked with a fever, which assumed a most malignant appearance, attended with black vomitings and a yellow skin. He died on the 28th.

16th. John Van Deventer, (.3) as the family informs me, was taken on the 20th of 9th month (September), and died on the 29th, with a yellow skin.

17th. Samuel Hitchcock, at the corner of the Market and Front-street, (.4) sickened on the 23d, and died on the 29th, in Fletcher-street, where he had been conveyed after he became unwell. His attendant, in her simple narrative of his case, says, he puked matter just like the grounds of coffee, but he was not yellow.



18th. James Hamilton belonged to the schooner *Ellice*, which arrived on the 16th of 9th month (September), after eight days passage from Richmond, in Virginia. He was employed in assisting to unload her, at the easterly side of Murray's wharf (.5). He was taken sick on the 27th, and then took lodgings at the Crane wharf; where he died in the morning of the 30th, with pukings of a greenish matter, and with a yellow skin.

19th. T. Comstock resided in Front-street, between the Market and Depeyster-street (.6): he was taken on the 28th of 9th month (Sept.), and was afterwards carried to the New-York Hospital; where he died on the 3d of the next month, with a yellow skin.

20th. J. Rogers (.7) was taken in the night of the 20th of 9th month (September), with chills and sickness at stomach, followed by a hot fit, which was succeeded by a sweating. In the morning he was so well as to be about house. His complaints returned towards evening, without a preceding chilliness, and continued, with little or no abatement, till his death. He did not have much sickness at stomach, nor great pain in his head. The tunicae conjunctivæ of his eyes appeared bloated, with a reddish yellow fluid: his skin was yellow; his pulse most of the time soft, and not frequent; and he was much harrassed with a very painful hickuping, with short intermissions, for about twelve hours before his death; which occurred on the morning of the 26th.

21st. Abel Beers attended a store in Water-street (.8). He was taken with chills, pains in his head, &c. on the 10th of 10th month (October), and died on the 16th. During his fever, which regularly remitted every morning, he was much deranged in his mind; his bowels were constipated, and stools, procured by art, dark; his eyes and skin became yellowish on the fourth day; he puked a brownish matter several times on each of the two last days of his illness, and vomited a great quantity of blood just before his death. After death, the skin was observed to be universally yellow, except that there were purple effusions about the neck, breast, and on the lower extremities.

22d. Elias Mowatt, in William-street, died on the same day, of a fever with which he was attacked on the 12th. During his complaint, he had, several times, puked a black matter: he had some yellowness about his neck.

From the foregoing list, which comprehends all the deaths from this fever, which have occurred in this city this year,\* up to the present date, as far as I can learn, it appears that nearly one half

\* Since writing the above, one other death, and only one, has come to my knowledge, and the present steady coldness of the weather and hardness of the frost, seems intirely to have checked the disease; it is not probable a single case of it exists in the city at this time.

of them originated in a small part of East George-street; and the greater part of the remainder near about, and just below the Fly-market. We are, therefore, naturally led to examine the situation of these afflicted spots, to ascertain the cause of its particular prevalence there. And, indeed, the southerly part of East George-street, where the complaint prevailed, (if we can suppose filth and putrefaction of any kind to produce it,) seemed well prepared for the purpose. The street itself, unpaved, was so rutted and broken up, in particular parts, as effectually to prevent it from being kept dry. Frequently, for some time after wet weather, it was almost impossible for footmen to pass through it, without miring half shoe deep; and, at the best of times, one fourth of this particular part of it was a filthy mud-puddle. Besides this, most of the houses are occupied by several families; all of whom have the yard in common; and really, upon inspection of these places, all of which are lower than the street, one's mind is struck with an idea that the several joint-tenants are not only determined not to clear away the other's dirt, but also that each one exerted himself to put, *at least*, his share into the noisome collection; because he had as good a right to make dirt as his neighbours. Hence these sunken spots became a dreadful mass of garbage and offal matters of every kind. This, however, was not the case with all: One house, the cellar of which contained fourteen persons, men, women, and children, black and white, all huddled together, having no yard at all. But here there was no loss in the end; for what of every refuse and excrementitious matter the yard would otherwise have gained, was here thrown into the open street; the common place for all kinds of putrefiable substances. But, beside this, at the upper part of this affected portion of the street, between four and five rods up Lumber-street, is a declivity that appears to crave every kind of rubbish that comes near it; nothing seems to be too gross for it; even the night-man's filthy load, as I have observed, here finds a free reception.

The cause of the prevalence of this disease near the Market, appeared very evident upon examining the spot. The south-eastern end of Pine-street, (S on plate II.) lies considerably lower than the dock which is continued from it; so that it there keeps a constant puddle of stagnant filthy water and mud. But this is a mere trifle in comparison to its pestilential neighbours. The slips (S S) on each side of this central spot, have been left, during the summer, to be fortuitously filled up by the free contributions of the neighbourhood. Hence they became the common receptacles of rubbish and filth of every description. I have seen in them the guts and trimmings of fish, shavings, the clearing of shops, mud, that appeared to have been the cleaning of sinks, cabbage leaves, potatoe peelings, &c. &c. and further, to render this noisome collection the more complete, the necessary night-man did

not fail to do his part: more than once have I observed their fulsome loads exposed in these places, and that even above the ordinary mark of high water. But beside all this, the spaces on the annexed plate, marked S with crosses, particularly that to the north-eastward of the dock, has, from its being open and so contiguous to the Market, become the common convenience to a multitude of people; and indeed so effectually have they bespattered the ground with their excrementitious depositions, that it requires a good degree of circumspection in walking there, to tread clear of the filth.

Havens and Suydam appear to have taken their complaints in an atmosphere contaminated by the emanations from the exposed flat at the inlet by Lynch and Stoughton's wharf. This inlet, including the spaces under the adjoining buildings on each side, which are set upon piles, exposes a surface of mud and every kind of filth that is constantly gathering in such places, of at least one hundred square yards at low water: and, as though it was feared that the parts under the stores should not receive their share of what is so freely thrown into such reservoirs, several of the boards of the platform before the door are left loose, so as to be taken up at pleasure: and, indeed, the pile that is heaped up under the opening shews that it has well answered its purpose. Still more completely to involve this dock in the most offensive effluvia, at the end of it is affixed a conveniency, erected, it is true, over the water; yet, with seeming care, such obstructions are introduced under it as to support great piles of matters, not less offensive to the smell, than disgusting to the eye. Havens attended and slept in a vessel that lay at this very wharf; while Suydam attended his store about eighteen yards from it, and in a direction for the regular southerly wind to blow the whole power of this loaded atmosphere upon him.

Rogers lived in a part free from the circumstances attending the residence of the afore-mentioned persons. Might he not have picked up his complaint at the Market?

Beers (.8) spent the day in a store between Beekman and Burling slips, which is remarkable for backing upon an inlet in the form of a T, that opens into Front-street. This place is unpaved, and, too much like many of the Philadelphia alleys, is bounded by the backs and gable ends of houses, and by yards, without a single house fronting it. It contains upwards of 200 square yards; one third of which, at the most moderate calculation, is constantly covered with mucky filth of one sort or other. It may be thought strange that this place should furnish us with but one death. This may have been owing to two causes. In the first place, to its being surrounded, in great degree, by stores that are only inhabited during the day; and secondly, to most of the inhabitants near it being



old residents. However, two other persons, to my knowledge, have here suffered with the complaint, both of whom recovered. One, Moses Judah (02), occupied and slept in the same store that Beers attended: and the other, George Burchell (01), resided in a house at the corner of this place and Front-street. They both had removed to this place this year, and Abel Beers (Judah's apprentice) had never spent a summer in New-York before.

Holmes, who died at the Hospital, took his complaint in Chesnut-street, the next door to the corner of Bancker-street. This same spot, at the junction of these two streets, is unpaved and sunken, and seems not only to solicit the accumulation of every thing worthless or unclean, but also to forbid the idea of any attempt to clean it out, lest it would make the pond the deeper. Indeed, so remarkable was this spot, as to make me, as early as the 7th month (July) last, request both of the Health Commissioners and the Alderman of the ward, to give some attention to it; as I considered it a place highly favourable to the promotion of Yellow Fever. However, it was not amended. Fortunately for the remaining inhabitants, they were a hardy set; most of them had undergone the fiery trial of 1795, in their families, and the remainder were old residents in town, as I have been informed, excepting one person, who lived the very next door to where this man was taken; but he luckily had been several months of the summer out of town, and did not return till some time after Holmes died.

The last person mentioned as having died of this complaint, resided in a healthy, cleanly part of the town: and how or where he could have taken his disease is still a mystery. Possibly he might have received it at some one of the sources above-mentioned.

These circumstances, being well considered and candidly examined, I think must clearly prove to every unprejudiced mind, that in this city there appears to be an intimate and inseparable connection between the prevalence of the Yellow Fever, and the existence of putrid effluvia: whether it be septon or hydrogene, or whatsoever other peculiar principle that is the active ingredient of their composition, is not my business at present to inquire into; nor shall I pretend to decide whether these effluvia alone are the sole or original cause of the complaint; or whether, merely like a smouldering hot combustible, it burns only after having received a spark from elsewhere. However, from some facts, particularly that from the Busbridge Indianman, (*Annals of Med.* vol. I.) and others that might be brought if necessary, it seems highly probable, that such matters may, of themselves, sometimes burst out as it were, into actual flame at some point; from whence a general conflagration may spread through and involve the whole of these susceptible materials.

In 1795, from the inseparable connection observed to exist between this disease and putrid miasmata, I had strong suspicions of their being its sole cause; and, indeed, the evidence then adduced to the contrary, by the advocates of importation, being so weak and ungrounded, seemed rather to support the idea: however, from subsequent inquiry, and more minute information, in regard to some circumstances, not then so generally known, it now appears to me probable, that a foreign *fomites* might at first have excited our pestilential vapours into the action that spread such devastation in the most afflicted part of our city.

The brig Caroline arrived from Hispaniola on the 19th of 7th month (July), 1795, and hauled in at Dover-street wharf on the 20th; where, on that and the two following days, she discharged her cargo. She had lost one hand on her passage, his symptoms unknown. George A. Valentine, who attended the vessel after her arrival, was taken ill with the fever on the 25th of the same month, but recovered. On the same day, "four persons from "on board the ship William, from Liverpool, which arrived here "several weeks before, (all the hands having, previous to that day "and during the voyage, been perfectly healthy) were taken ill "with fever, attended with a yellow skin, hemorrhagies, vomiting "of black matter resembling coffee grounds, &c. and all died "within seven days." (Health Committee's Letter to the Governor.) It may be observed, that this ship and the Caroline lay at opposite sides of the same wharf, and that the people of both were employed on this wharf, at the same time, in unloading their cargoes.

On the same day also, "the owner of the ship Connecticut, "that had lately arrived from some part of England, and which "had drawn in at the next wharf, about the 20th or 21st of this "month, was seized with the fever, from which he recovered; "and about the same time, one of the mates, the steward, and two "of the hands, were seized in the same way, and all died." (Smith's Letter to Buel.)

Benjamin Paine, a custom-house officer, who was at that time attending the brig Active, which lay in the same slip, was likewise attacked on the 25th: he died on the 30th.

William Fitch's clerk, who was occupied in a store on the next wharf to where the Caroline lay, was taken on the 26th, and died a few days afterwards.

A. Jenkins, at the head of the wharf, was attacked on the 30th or 31st, and died. A few days afterwards, several of his family were taken sick, and the disease began to spread through the surrounding neighbourhood.

The circumstance of so many persons being taken on the same day, renders it highly probable, that some existing cause of this

disease must have been introduced by the Caroline; since, had the contagion arisen from the pre-existing circumstances of the place alone, it is not likely that it would have shewn itself in so many instances at the same time. In that case, we should have looked for one to have been first taken, from whom a principle might be derived to stimulate the vapours of that noxious neighbourhood into their pestiferous operations. Had the disease, in these instances, originated solely from the surrounding filth, we should not have expected to find the men of the Connecticut, and those of the William, taken at the same time; since the former had drawn in there only *about* four or five days, whereas the latter had lain there for "several weeks" before they were taken sick.

In 1796, the brig Patty, Capt. Snow, from St. Bartholomews, arrived on the 28th of 6th month (June), and not July, as erroneously stated (probably by an accident of the press) in Dr. Bayley's Letter. (Medical Repository, No. I. Appendix.) This vessel drew in at Delafield's wharf; which is the next to the dock that was then filling up, and is adjoining the Exchange-slip; and although "*none of the crew had been sick of a malignant fever,*" still she might have brought a *fomites* sufficient to set the putrid miasmata of such a place into a pestilential action. Jonathan Thompson, a shop-keeper, who lived No. 24 Moore-street, but a short distance from this dock, and upon which he was in the daily habit of taking his walk, became sick on the 4th of 7th month (July), and died on the 10th, with well marked symptoms of a highly malignant Yellow Fever. Capt. Neal's wife, who resided half way between the Exchange-slip and Moore-street, in Front-street, was seized on the 7th, and died on the 10th. Nathan Strong died on the 17th; from which time the disease became more and more general about the neighbourhood of the dock that was filling up, as stated in the letter just referred to.

The first person who died this year about the disemboguement of Roosevelt-street drain, if I am informed rightly, was James Callender (.i on plate I.). He was a labouring man, who was employed somewhere towards the lower end of the town; and perhaps he was affected with the complaint from being about the Exchange; and transported, by his disease, the seeds of infection to that fertile neighbourhood in which he lived.

In 1797, the first person that was taken sick in East George-street, was W. Cummings: he arrived the 13th of 8th month (August), in the sloop Polly, from George-town, South-Carolina. One hand died on the passage, and Cummings was slightly indisposed at the time of his arrival, with what he supposed an ague and fever, but was not taken seriously unwell till two nights after he had lodged in this street. It may be, that a partial principle of death lurked in his system, during the whole time after the death of his



comradé, and most likely, never would have seriously acted upon him, had he not immersed himself in this or some such like fury-fostering miasmata. From him the disease seems to have spread. Two of his next door neighbours fell under its power, and it extended itself, as above related, through all the most offensive part of this street.

— Kelly, of the brig Bellona, (which arrived the 3d of 9th month (September), from Savannah, with all her hands and passengers in good health) unfortunately pitched himself within the noxious effluvia of the Fly-market; and, still more certainly to fix his fate, lodged in a room, two of the windows of which opened towards the places where the putrid collections were gathered, and from whence the southerly winds must have brought their vapours immediately upon him. He is the first that appears to have had the disease in that neighbourhood; and perhaps the effluvia arising from his body, united with the putrid vapours emitted from the collections before noticed, spread the complaint around this little vicinity.

Another of the hands from the same vessel, took up his quarters at Chesnut-street; where he met with the necessary ingredients to bring his latent poison into life. He was afterwards taken to the New-York Hospital, where he died. It may seem somewhat strange, that the cause of disease that must have been kindled up at this spot did not affect any of his neighbours; probably, from circumstances already mentioned, they were proof against its operations.

The systems of the two persons who lived at or near Lynch and Stoughton's wharf, being richly loaded with the emissions from that offensive spot, might possibly have caught a spark of excitement in passing near the Market.

George Burchell may have taken his disease, after having been immersed in the effluvia from the inlet between Burling and Beekman slips, from the hands of the same vessel, as they frequented his shop immediately after their arrival. He probably set the whole materials in action, whence Beers and Judah were afterwards affected.

The other persons mentioned in the list of deaths, may have received the cause of their complaints at one or other of the aforementioned sources.

These circumstances render it probable that the cause of Yellow Fever, in the particular parts of our city, has, of late, been set in action by an enlivening spark from abroad. However, I do not consider it as decidedly determined. It is possible that Cummings, having suddenly changed from a purer air, with his already infirm body, to this hot-bed of putrefaction, may, from those predispositions, have had the disease created in him, before it had ripened

in the bodies of his neighbours; and he thence may have introduced the principles of his complaint to the surrounding air.

Just arrived from sea, and of a profligate habit, Kelly might thence have been a person, more than any other about the market, prepared for the deleterious operation of the putrid vapours in which they were enveloped; and thereby have been first affected by surrounding causes of fever; and, in turn, may have imparted a principle to the air, that usuriously repaid it for its fatal effects upon him.

And although James Callender worked towards the lower end of the town, there is no proof of his having brought his complaint, or even of his having been at Whitehall. Nor, indeed, is it certain that the Patty imparted any principle of disease to the poisonous vapours of that neighbourhood.

The Caroline, it is true, lay at Dover-street wharf for some days before the people thereabout became sick; and although such a number becoming suddenly sick, at the same time, and so soon after her arrival, render her very justly suspected, still it is possible, that, from the particular and similar predisposition of most of them, only one having been an old resident, and, all excepting three, having lately come from the same place, and having been alike accustomed to the same habits of diet, exercise, &c. they may have had the complaint generated and arrived to maturity in them all at the same time. From which beginning, the disease might have been communicated to the whole of that peculiarly filthy part of our city, in 1795, without the necessity of believing that the Caroline brought any deleterious principle from Hispaniola. Although the circumstance of some of these people having lain at that place a much longer time than the others, and others again having continued there during the whole summer, shew, beyond a doubt, that some cause of the complaint must have *began* to operate after the 20th of the month, still this does not necessarily devolve upon the Caroline: perhaps some particular change in the air,\* or some other peculiarity might have occurred, just at that time, to have given the putrid miasm its rankest perfection.

Whether the complaint is ever generated by putrefaction *alone* or not, still I am rather inclined to believe, that, *generally*, in our city, it has been set in action by an *assisting* cause from abroad. For, did simple putrefaction of itself give rise to this complaint among us, we should expect to find more or less of it, in that row of tenements called Moore's buildings, in the years of 1796 and 1797. For although those buildings are set upon high

\* It must, however, be acknowledged, that no particular change was evident in the *temperature* of the air. (See the Meteorological Observations in my account of the Epidemic of 1795).

ground, still they are upon a perfect level, and are the most crowded with, perhaps, the most dirty set of residents of any in the city; and these chiefly newly arrived Irish people. Still I cannot learn that a single case of Yellow Fever has been there for these two years past. And, I can hardly believe, that if a person with that complaint had been introduced among them about six weeks ago, but that he would have spread mortality around him.

In East George-street also, during the last year, we should have expected to find, at least, a few cases of the complaint; yet I cannot, notwithstanding the most diligent inquiry, find a single instance. Had a single instance occurred, probably it would have caused a general prevalence there.\*

In addition to this, it may be observed, that the singular filthiness that has existed in different parts of our city, and particularly about some of the slips, towards the lower part of the town, for several years before 1791, was not attended with any material injury to the health of those in its vicinity; at least, we have no account of the Yellow Fever's spreading around them.

In the years 1792 and 1793, the mud machine was employed in clearing out the docks, the same as in the preceding and the succeeding years. But we heard of no Yellow Fever being the consequence.

But that the simple emanations from a person under the Yellow Fever, without the joint action of putrid miasmata, *will not* produce a like disease in another person is very clear, not only from the many facts heretofore adduced in the accounts of that disease, as it appeared in 1795, (see Webster's Collection of Papers) but also from the confirming occurrences that have happened this year. The person supposed to have enkindled the disease in East George-street, as well as the one at the Market, were both conveyed to, and died at Bedlow's Island; yet none of the boatmen that took them there, nor any of the attendants, nurses, or those confined in the Lazaretto with other complaints, suffered any indisposition from them. A person, as I am informed, who took his complaint

\* I am aware of an objection that may be made to this idea, in accounting for the healthiness of this street in 1796; first, that the preceding year's depopulation, and the dreadful character that the street sustained thereby, probably prevented it from being so crowded as before and since; and, secondly, that the street having been filled up during that summer might prevent so great an accumulation of filth. In answer to this it may be remarked, that notwithstanding the character of the street, it had not been observably more thinly inhabited; and although the street was filled up that year, yet that was done in the fore part of the summer, and some time before the sickly season, and that the yards were equally unfavourably situated as before or since; and that although the filling up of the street might have had its use, still we can hardly believe such a partial business would have produced such an entire exemption from this disease, had filthiness been its sole cause.



at Philadelphia, was also carried to the Island, and was there attended by his friends, who had come directly from the fresh free air of the country, and with as little inconvenience. Two of the patients afore-mentioned died at the New-York Hospital, one from the market, and the other from Chesnut-street; yet they communicated the disease to no one there. Parsells, who died in Cedar-street, infected no one in that neighbourhood. Nor did Suydam spread any disease around the Exchange where he died; and Havens' complaint terminated with his existence, in the upper part of Roosevelt-street.

To the foregoing circumstances may be added, that about the same time that Kelly and Holmes (the former of whom is supposed to have introduced the disease about the market) arrived from Savannah, there also were several other arrivals from the same place, none of whose hands, or passengers, as far as I can learn, suffered with a like disease;\* probably from their having taken more eligible lodgings.

The simple result of the foregoing facts and observations appears to be,

I. That the general cause of the Yellow Fever, as it has appeared in this city, is what chemists call a *tertium quid*, neither one thing nor the other, but a result of the junction of certain matters emitted from a human body, labouring under such a disease, with the effluvia arising from animal and vegetable substances in a state of putrefaction.

II. That putrid effluvia may possibly, of themselves, generate the disease in persons highly predisposed, and from whom, by their assistance, the fatal epidemic may be spread through a neighbourhood.

III. That most probably, the spark that has kindled up the putrid vapours, in certain parts of our city, into action, was originally introduced from other places. And,

IV. As I have uniformly believed, and repeatedly expressed, "that no Yellow Fever can SPREAD, but by the influence of putrid effluvia." (Account of the Epidemic Yellow Fever of 1795.)

Hence then, the grand, the much agitated "question of importation or non-importation, as it respects the health of a place," to use the words of Dr. Smith, "sinks into its merited insignifi-

\* This, perhaps, by some, may be thought inaccurate, as one of the hands of the Shepherdes died soon after her arrival here, and, as was currently reported, of the Yellow Fever; but, from inquiry, I do not find that his indisposition exhibited any marks of that disease. He did not vomit at all, at least after he was on shore; nor was he in any wise yellow; he being, when dead, according to the expressions of his wife, "as fair a corpse as any in the world."

"cance; the efficient cause, the *causa sine qua non*, being clearly discerned as depending on local circumstances." (Letters to Buel.)

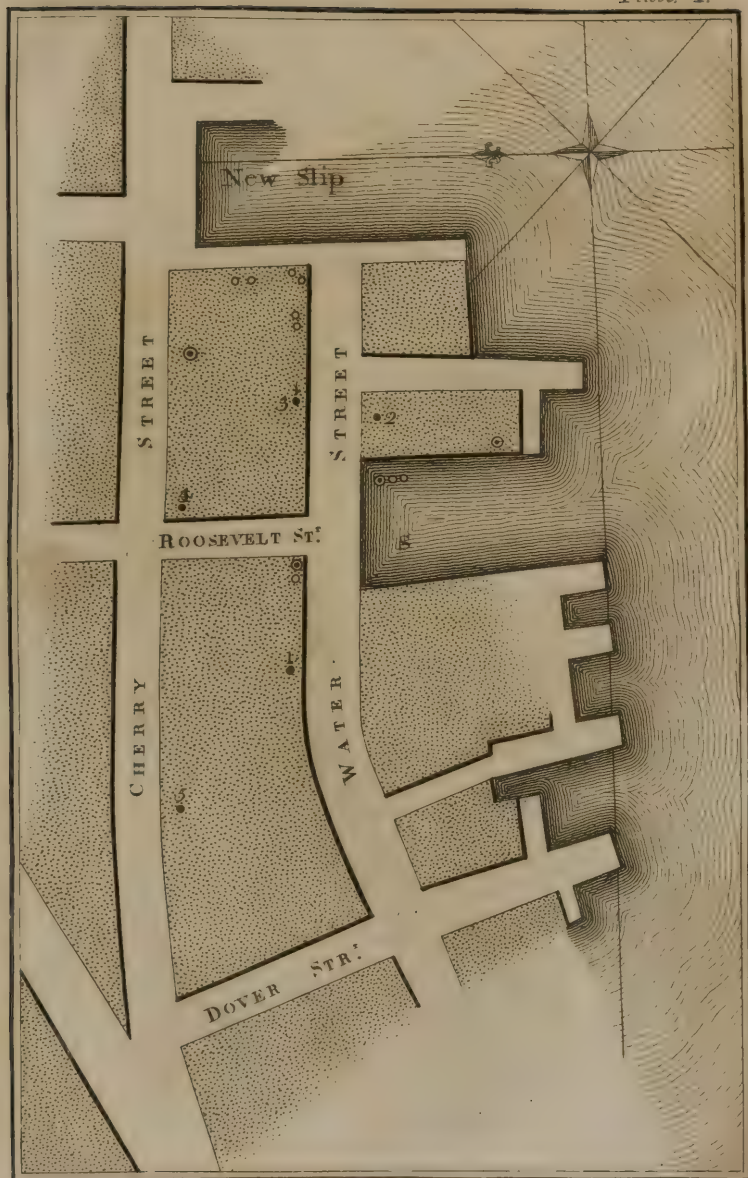
To depend, therefore, for our safety from Yellow Fever, upon the rigours of our port laws, or the vigilance of our Health Officers, while these pools of putrefaction are suffered to remain, is like building a city with cedar and pine, and confiding in the *watch* to secure us from fire. But if these pregnant sources of destruction are dried up, we may, like those who case the wooden work of their brick-built, tile-roofed houses, with iron, rest at ease in our habitations, equally secure against the deceitful captain's intrusions, or the incautious sailor's blundering into our ports, in the one case, as, in the other, we should be of the vile incendiary's match or the careless neighbour's spark. As the latter would die in their own combustion, so the former would end in the fate of the single sufferers.

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To rest our security from the Yellow Fever (should it finally appear that it is always imported) *solely* upon the slight precaution of making such vessels, from the West-Indies and Southern States, as may have, or may have had persons with that complaint on board them, do ten days or two weeks quarantine, must certainly be a very venturesome business. The *Patty* had not had any of her crew sick with a malignant fever. The people of the *Bellona* were in good health from their leaving Savannah, till some days after they were in this city. And the *Polly* might have done the usual quarantine, without any security to us, as Cummings was not seized with his disease till seventeen days after his arrival.

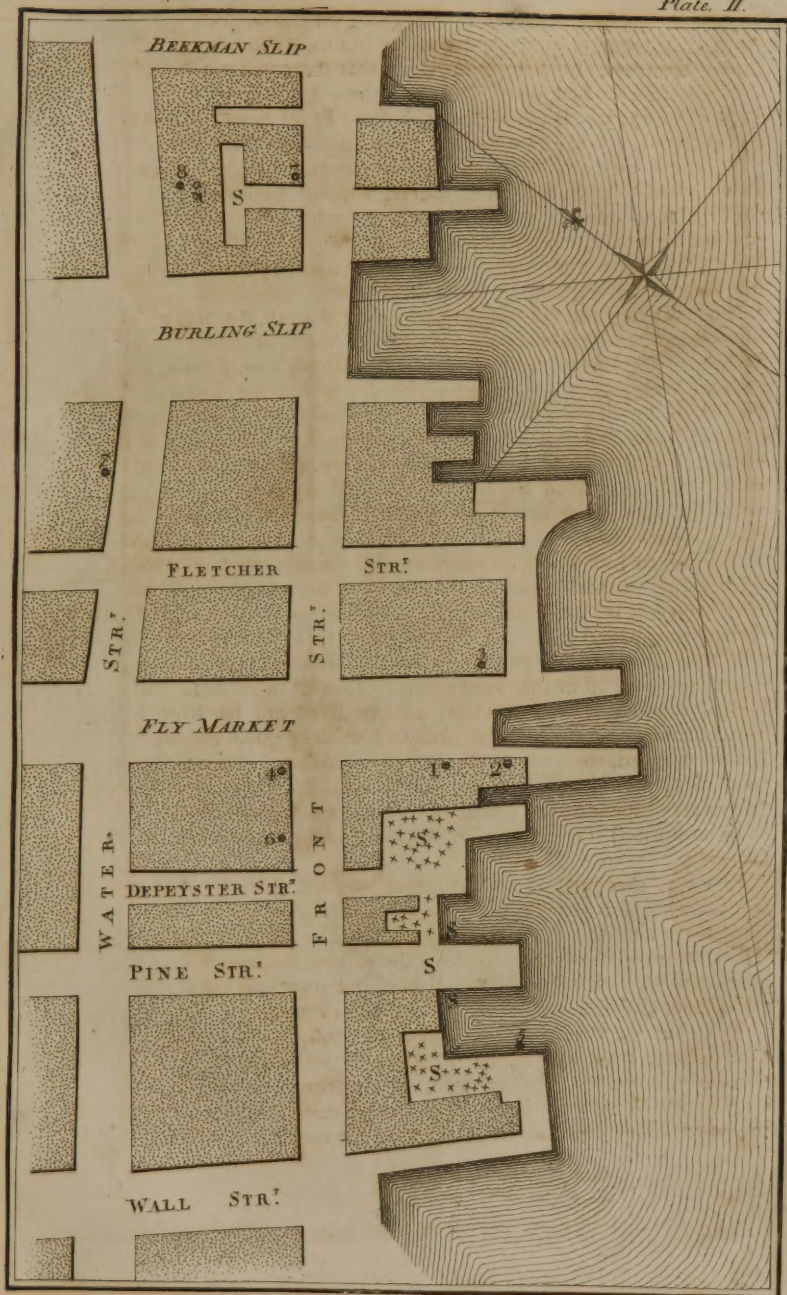
Nothing less than completely prohibiting all commercial intercourse from the Southern States and the West-Indies, during the summer and first fall months, or (what would, in the end, amount to the same thing) making every vessel from thence do full quarantine, and have their cargoes unloaded and properly unpacked and ventilated, before they are permitted to come into our city, can ensure us against the introduction of a cause of the Yellow Fever: however, these severe restrictions may be superceded by merely having ourselves properly prepared. If we only keep decently cleanly, it will be perfectly indifferent to us, whether a Carolinian or a West-Indian should die with Yellow Fever in our city or in our harbour, since, then, we should be guarded against any ill effects from them.

New-York, 10th Month, 1797.









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